

U.S. Department of Agriculture Summary Report to the Invasive Species Advisory Council for the winter 2015 meeting October 2015

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ISAC recommendation: What are NISC agencies doing to avoid harm?

USDA Do No Harm Report: The FY14 USDA Do No Harm report (27 January 2015) was edited to include all USFS programs in a second FY14 USDA Do No Harm Report dated 5 July 2015.

ISAC recommendation: NISC support funding and staffing for classical systematics research, education and operations...

ARS Systematics: Funding: FY 2014 – \$20,572,000

FY 2015 Estimate – \$20,683,000, a hundred thousand increase.

ARS hired two insect taxonomists, and has one vacancy pending.

APHIS systematics: APHIS hired 24 new pest identification personnel located at ports of entry; and 5 new national taxonomists curating major research collections.

ISAC Recommendation: That NISC adopts the Invasive Species and the Green Economy paper and recommendations ...

The APHIS Cooperative Agricultural Pest Survey: The CAPS Pest Detection program provides for early detection of exotic, harmful, or economically significant plant pests, pathogens, and weeds. FY15 surveys are ongoing for 259 commodity- and taxon-based surveys in 50 States and 3 territories. The Program is surveying for 248 unique pests, of which 117 are National Priority Pests. Of these, 218 pests are not in the US.

ISAC Recommendation: Substantially increase Federal ... agency staffing in the import/border inspection for agriculture...

Weed Risk Assessments: APHIS new predictive weed risk assessment model has evaluated 92 species that represent new US detections, proposed plant imports, or other species that pose a weed or invasive plant threat.

NAPPRA plants for planting: APHIS is proposing a third group of quarantine pest plants and hosts of quarantine pest candidates for NAPPRA listing.

Prevent introductions of invasive species to the US: APHIS works with foreign counterparts to strengthen their ability to inspect shipments prior to export and phytosanitary certification.

ISAC Recommendation: That NISC adopts the Invasive Species and Climate Change paper recommendations...

Forests in National Parks and climate change: National Park Service manages over 8900 sq. km of forest area in the eastern US where climate change and invasive species are altering forest structure, composition, and processes. Forest Service examined potential changes in tree habitat suitability for 121 national parks, 134 tree species, 81 nonnative tree pests, and nonnative vascular plants. Rapid climate change and nonnative stressors may accelerate decline of some tree species and inhibit other species from occupying suitable habitat.

Climate change impacts: A changing climate is causing even longer wildfire seasons, extreme weather events, shifting crop patterns, increased costs for weed control and invasive species management, and increase insect infestations in forests. USDA increased disaster assistance and crop insurance payments to farmers due to droughts, wildfires and other natural events.

SAFARIS: APHIS-PPQ has established a single framework to contain climate change drivers (environmental variables) as well as supporting a variety of forecasting models. The framework focuses on regulatory risk analysis with applications to commodity' risk assessments, pest spread modeling, impact analysis, and other.

EAB biological control: USFS evaluated *Tetrastichus planipennisi* for classical biological control of the emerald ash borer (EAB). The natural enemies are tiny beneficial insects that eat EAB eggs and larvae. Adults were released into each of six forest sites and 21.2% of EAB were parasitized by the fall. The biocontrol agent has been

established and its populations are increasing and expanding. It will play a critical role in suppressing EAB populations in Michigan.

Scientific models: ARS co-sponsored the workshop Advancing Pest and Disease Modeling. The workshop brought together researchers developing models for projections of crop yields under changing climate with those developing models for pest population dynamics. They identified research needs and approaches for developing models to predict the spread of invasive pests and pathogens under conditions of global climate change.

Carbon storage and GHG emissions: NRCS developed tools to estimate the amount of carbon stored and GHG emissions reduced at the field and producer level. COMET-VR is a web-based, interactive decision support tool that includes the effects of land-management changes and is authorized for voluntary GHG reporting.

ISAC Recommendation: NISC agencies working on biological control of invasive organisms, plan, conduct, and evaluate their programs in the context of an IPM approach.

IPM Research:

1. Challenge in collecting and transporting biocontrol agents: The future of classical biological control is threatened by an ever increasing difficulty associated with obtaining permits to remove potential agents from the country of origin as a result of the Convention on Biological Diversity.
2. ARS is developing remote sensing and pheromone trapping technologies for new invasive pests, such as the brown marmorated stink bug, to enable mapping and tracking of invasive species, and the effectiveness of eradication measures. They are evaluating natural enemies of the brown marmorated stink bug. Because of the broad host range of this pest (agriculture, forests and natural landscapes) an integrated areawide management program will incorporate biocontrol with other control methods.
3. ARS Areawide Pest Management program: ARS funded projects to control the coffee berry borer (in HI and PR), invasive aquatic weeds in the San Joaquin river delta, the soybean aphid, and the emerald ash borer.
4. APHIS is using a biocontrol organism as part of a management program for Asian citrus psyllid (ACP) which vectors the devastating

disease called citrus greening. Citrus growers in Texas, Florida and southern California, have implemented an area-wide management program to suppress psyllid populations in commercial groves. APHIS worked to reduce psyllid populations in residential or organic citrus groves. Biocontrol agents from CA are being released in AZ and along the U.S.-Mexico border. APHIS released a second biocontrol agent in CA which attacks a different stage of the psyllid. Projects are underway using a commercially available fungal biocontrol agent that could attack all stages of the ACP.

ISAC Recommendation: Please prepare a **special report on the budget impacts to invasive species programs.**

**Funding Available for Invasive Species General Categories, Departmental Template –
USDA (dollars in thousands)**

USDA Agency	FY 2010 Actual	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Actual	FY 2015 Enacted	FY 2016 President's Budget
USDA AGENCIES TOTAL							
APHIS	\$769,302	\$716,799	\$698,451	\$611,144	\$669,503	\$677,101	\$657,793
ARS	\$285,582	\$274,891	\$249,999	\$232,170	\$255,260	\$254,832	\$254,832
NIFA	\$ 51,282	\$ 38,211	\$ 32,697	\$ 34,773	\$ 31,360	\$ 31,380	\$ 31,898
ERS	\$ 1,000	\$ 1,000	\$ -	\$ 500	\$ 835	\$ 835	\$ 835
USFS	\$126,447	\$131,494	\$139,188	\$123,111	\$117,067	\$118,770	\$119,231
NRCS	\$173,098	\$168,967	\$163,140	\$217,007	\$105,026	\$180,000	\$180,000
Agriculture Dept. TOTAL	\$1,406,711	\$1,331,362	\$1,283,478	\$1,218,705	\$1,179,471	\$1,262,918	\$1,244,589

ISAC Recommendation on Systematics:

1. The USDA Agricultural Research Service (ARS) and the Smithsonian Institution conduct a survey and gap analysis of their Federal systematics collections, associated resources, and capabilities.

2. Survey results should be translated into an ARS 10 Year Systematics Action Plan and a Smithsonian Institution 10 Year Systematics Action Plan.

3. The Plans should be used by agency leaders to improve the systematics capabilities and resources of the agencies in all taxa to strengthen their ability to predict, prevent and manage invasive species.

4. The coordination of federal systematics efforts referenced in the Federal Interagency Committee for Invasive Terrestrial Animals and Pathogens (ITAP) *Situation Report* should be implemented.¹

5. The ITAP's Systematics Subcommittee should assist the agencies in the Surveys recommended by the Situation Report.

It was decided to start with the ARS Systematics Survey. Initial meetings were held. ARS did a recent evaluation of all its collections, including systematics. We will identify if the recent ARS effort can/should be incorporated into the ITAP/ARS Survey effort.

ISAC Action Item: Request NISC to provide summary reports on current national invasive species outreach campaigns...

APHIS submitted their "Hungry Pests" national invasive species campaign and NIFA submitted their national education effort.

Other important invasive species issues:

Avian Influenza pandemic is the largest event in APHIS history. A presentation to ISAC is scheduled for this meeting. Wild birds have infected poultry (chickens, turkeys) in the Pacific and Midwest flyways. **Control of feral pigs** program finalized its Environmental Impact Statement and received substantial funding to implement the program in states and territories.

¹ Federal Interagency Committee on Invasive Terrestrial Animals and Pathogens (ITAP) Systematics Subcommittee. 2008. Protecting America's Economy, Environment, Health, and Security against Invasive Species Requires a Strong Federal Program in Systematic Biology.